

### Crystal ball questions on Solubility product

*All of the following questions have not (as yet!) appeared in the NCEA Level 3 Exams*

#### QUESTIONS: For each of the following

- i) Write the equation for the equilibrium present in a saturated solution
- ii) Write the expression for  $K_s$
- iii) Calculate the solubility (or conductivity) of the following substances in a saturated solution, in  $\text{mol L}^{-1}$

<b>BaCrO<sub>4</sub></b> $K_s(\text{BaCrO}_4) = 1.2 \times 10^{-10}$	<b>Cu(IO<sub>3</sub>)<sub>2</sub></b> $K_s = 1.3 \times 10^{-12}$	<b>SrF<sub>2</sub></b> $K_s = 4.3 \times 10^{-1}$	<b>PbI<sub>2</sub></b> $K_s = 8.5 \times 10^{-9}$
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#### QUESTIONS: For the following questions

- i) Write the equation for the equilibrium present in a saturated solution
- ii) Write the expression for  $K_s$  for each of the following
- iii) Calculate the concentration of the **named ions** in a saturated solution, in  $\text{mol L}^{-1}$

Given $K_s$ of $\text{AgCl} = 1.8 \times 10^{-10}$ , find the concentration of <b>Ag<sup>+</sup></b> ions	Given $K_s$ of $\text{CuS} = 6.0 \times 10^{-37}$ , find the concentration of <b>S<sup>2-</sup></b> ions	Given $K_s$ of $\text{Cu(IO}_3)_2 = 6.9 \times 10^{-8}$ , find the concentration of <b>Cu<sup>2+</sup></b> ions	Given $K_s$ of $\text{Fe(OH)}_2 = 4.9 \times 10^{-17}$ , find the concentration of <b>OH<sup>-</sup></b> ions
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